

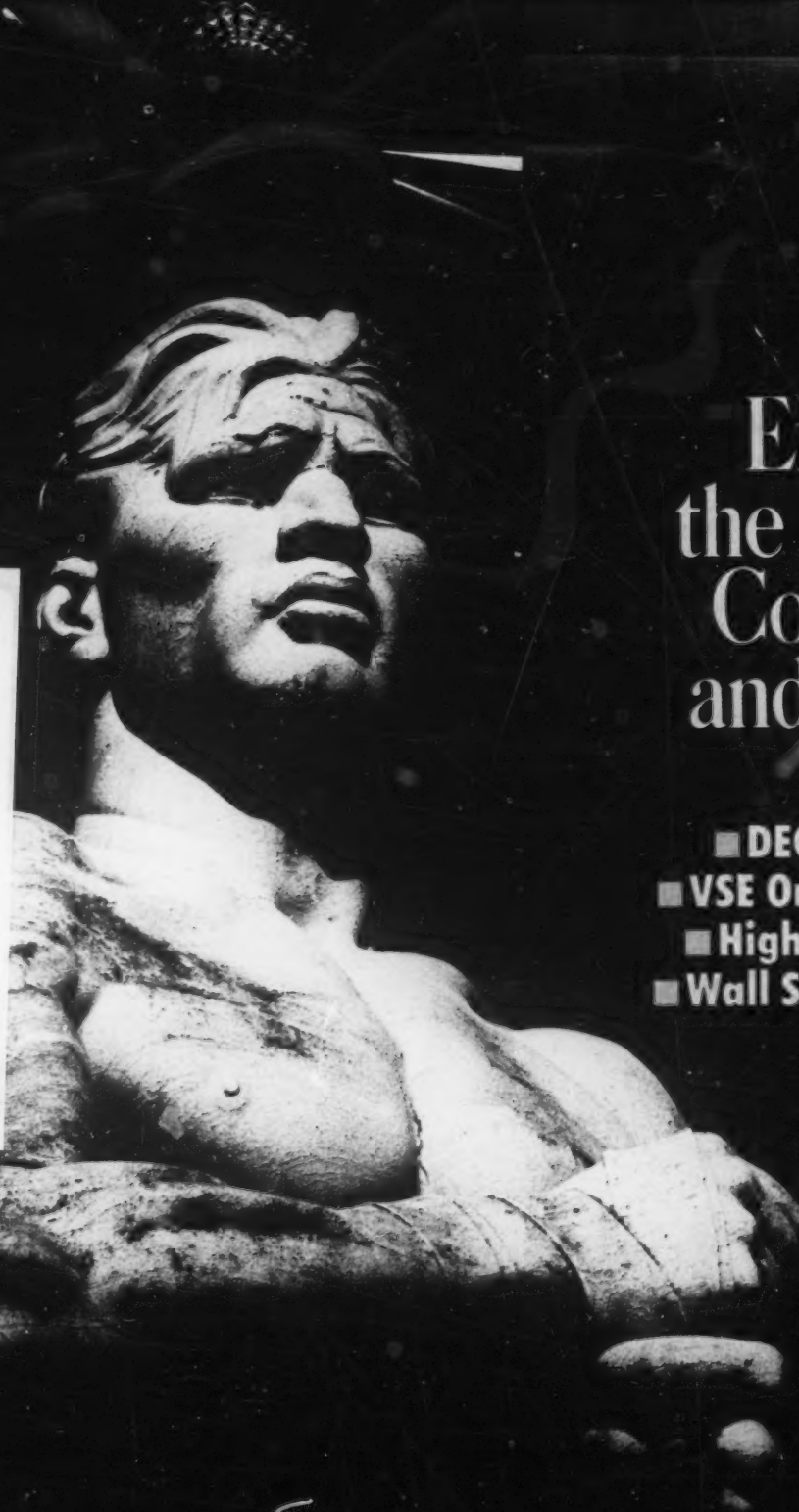
Exclusive DATAMATION Price Waterhouse IS Trend Survey p. 106

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DATAMATION

MARCH 15, 1988
A CAHNS PUBLICATION



EDI Puts the Muscle in Commerce and Industry

Plus:

- DEC's OLTP Debut
- VSE Orphans Fight Back
- High Speed Modems
- Wall St. Crash Survivors

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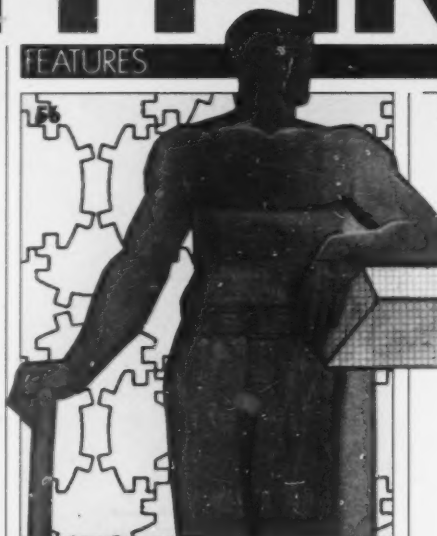
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BY WILLIE SCHATZ

Neither rain nor sleet nor gloom of night seem capable of keeping electronic data interchange—the computer-to-computer exchange of orders, bills, invoices, etc.—from its arrival. Chauf-fured by customer pressure, EDI is becoming a baseline requirement for doing business. Delivering the maximum benefits of EDI requires users to get the right equipment, to rethink their in-house systems, and to plan, plan, plan.



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BY BRAD SCHULTZ

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BY EDITH D. MYERS

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The DATAMATION

Budget Survey

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Editorial

EDI Is Great, But It's Not Enough

Electronic data interchange (EDI), the subject of this issue's cover story by Washington bureau manager Willie Schatz, has been one of the industry's more pleasant surprises. Manufacturers and their suppliers worldwide have implemented EDI with little fanfare. Vendors of EDI services also have been relatively quiet. They have spent more time helping their customers lower manufacturing cost via efficient intercompany communications than deluging business publications such as DATAMATION with press releases about the wonders of ordering parts and equipment electronically.

But IS execs at U.S. manufacturing enterprises should not rest on their EDI laurels. Nor should they kid themselves into believing that the boom in exports, which is fattening the bottom line of so many Fortune 500 industrials, will continue forever. What they should do is focus on the personnel strategies, organizational structures, and technological tools they will need in the 1990s to compete against European and Far Eastern companies that are growing even more formidable behind the mask of inflated currencies. Reports in previous issues by international editor Paul Tate, Tokyo bureau manager Robert Poe, and San Francisco bureau manager Jeff Moad on how companies across the oceans are using information technology to leverage productivity document their increasing strength.

Just who will shape such vision on U.S. shores remains to be seen. There are disturbing reports from management consulting and Big Eight firms that many MIS directors and their functional counterparts in U.S. corporations—the vps of manufacturing and R&D—are blind to each other's concerns. They fight so much over info technology turf that often it falls upon chief financial officers to settle disputes. Few cfo's, however, are trained to see where expert systems, networks, and bona fide RDBMSs—the stuff profits will be made of in the next decade—will enhance their businesses.

What's needed is a strong dose of consensus management. IS execs and their functional brethren need to collaborate on competitiveness, in much the same way that forward thinking manufacturers such as GM and IBM have huddled with their strategic suppliers in support of EDI. And there's no better time to begin such collaboration than when business is good. So make a call to set up a meeting with your corporate colleagues—today. Don't wait for the cfo to take the initiative.



Tim Mead

TIM MEAD
EDITOR-IN-CHIEF

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Letters

These Are Not Fun Letters

"IBM and the Control of Information" (Jan. 1, p. 34) by Ralph Emmett Carlyle and Jeff Moad was excellent, but missed some crucial items.

- In a large data center, IBM's normal time for providing a problem fix is excessive. (The worst I have experienced between reporting a problem—including its fix—and the response, was an 11-month delay. This for something that caused a complete system crash!) Source code availability makes it easier to provide fixes or work arounds.

- IBM's documentation for control blocks and program logic is frequently incomplete and generally fuzzy. The program logic rarely goes into the specific detail required while analyzing a system dump.

- In the past, a significant factor in software package evaluation has been the availability of source code. With OCO, our evaluation of packages is reduced to cost versus performance, where IBM doesn't stand a chance. I expect OCO to put a noticeable dent in sales of IBM (nonsystem) software.

The first two items have been discussed, in different form, in SHARE's OCO white paper, but I have not seen the third mentioned.

In our MIS environment, while we have significantly fewer system modifications than under earlier systems, some are essential to system integrity. IBM-provided exits are desirable, but are not properly documented, and are generally in the wrong place or do not provide enough flexibility. OCO may be tolerable for the nontechnical user, but it is unworkable for the sophisticated installation.

GERHARD POSTPISCHIL

President

Expert Systems Programming Inc.
Vienna, Va.

Your special issue on IBM, and IBM's subsequent organizational changes indicate a dinosaur in its death throes.

For years, IBM has managed to dominate the mainframe marketplace through the following strategies:

- maintenance of dominant market share;
- minimization of product cost through long production runs, facilitated by artificially lengthening product life cycles; and
- nonrelease of newer technology into the marketplace until inventories of existing products are run down.

While these strategies have clearly

been successful in the mainframe arena, they will not work in the pc marketplace, due primarily to the increased competition, the fact that it is increasingly technology driven, and that end users, not IS professionals, are dictating hardware and software direction.

To operate successfully in this environment requires organizational "hustle and muscle." IBM may have the muscle—though even that's questionable—but it certainly does not have the hustle. The recent organizational changes will make it impossible for IBM to achieve coherency in its communications software and to avoid product overlap, duplication, and confusion in hardware. You almost get the sense that it is preparing certain business units for spin off.

I predict that, in order to regain competitiveness and profitability, within the next six years IBM will be forced to undergo a major restructuring of these businesses, which will include a breakup of IBM as we know it today.

J.G. BIRD

New Hope, Minn.

I must take issue with the comment that OS/2 is a revolutionary microcomputer operating system ("The Big Change for Small Systems Software," Dec. 15, p. 70). Why should OS/2 be considered revolutionary except to people who know only about MS/DOS?

Graphical interfaces; multitasking; megabytes of RAM; message passing between programs; clipboards; multiple windows; multiple, simultaneously available screen resolutions; up to 4,096 colors on screen at once . . . no, not an IBM PS/2 with OS/2, but the Commodore Amiga—available for a couple of years before anybody saw or heard of OS/2, much less the Presentation Manager. And the Amiga operating system fits entirely in 256KB of ROM with room left over for device drivers. Last I heard, OS/2 required between 1MB and 3MB.

The "revolutionary features" of OS/2 have been present in technical workstations and high-end office automation systems since the 1970s. They were pioneered by Xerox's Palo Alto Research Center.

Please, don't be so eager to use the word "revolutionary" unless something really is.

MARK CASHMAN

Dp Manager
Anacost Corp.
Rockville, Conn.

News in Perspective

MIDRANGE PROCESSING

DEC Said To Be Ready for Introduction of OLTP Family

The mini maker is counting on heralded customer loyalty to make a splash, but it has a long way to go to catch up to the leaders, IBM and Tandem.

BY RALPH EMMETT CARLYLE

Digital Equipment Corp.'s VAX community has waited patiently for five years while the minicomputer giant laid the groundwork for an ambitious on-line transaction processing (OLTP) architecture. The company has kept its plans under wraps, but in recent months DEC has hinted that a "major OLTP offering" is on the horizon: an integrated family of products that could provide the key to the company's growth in the 1990s.

Partly in response to mounting pressure from large corporate customers and partly with an eye to its own 20% to 25% a year growth target, DEC could be preparing to lift the veil on its new OLTP products, or, as a source at one beta site for one of the products put it, "raise the curtain on its own future."

Though DEC prefers to keep up the mystery for a little while longer, and will not comment publicly on the date and content of its announcement, a number of beta sites for the OLTP offerings reveal that it will probably come in the next quarter (see "DEC's OLTP Products").

One thing DEC is not trying to hide is its desire to succeed in the OLTP business. "The current worldwide market of \$20 billion to \$30 billion will probably double in only five years," says Roger Baust, transaction processing products manager for DEC at Merrimack, N.H. "OLTP applications are becoming bet-your-business or mission-



ASC'S ROSENBERG: He saw a void in DEC's offering that he could fill.

critical applications: it's the computing style of the 1990s. And it will be Digital's style," he adds.

Both the OLTP family and version 5.0 of the VAX operating system VMS are referred to by customers as "late," but Baust stresses that DEC won't be rushed into premature announcements: "We'll talk about OLTP when we're ready, and when we do, it will be big."

A Turn to Third Parties

The unveiling can't come too soon for some of DEC's large corporate customers. A number of big VAX sites, notably in the banking

sphere, claim that they are being driven to third-party software and homegrown approaches to cope with the tremendous growth in OLTP traffic. By revealing its hand, DEC may be able to garner additional business from these customers.

"We love our VAX hardware," says Tom O'Hara, vp of Security Pacific Automation Co. (SPAC), New York, "and our loyalty to DEC is beyond question. But we simply haven't been able to get the performance we needed from its OLTP software," he says. His bank decided to embrace a third-party program rather than DEC's.

Strangely, SPAC's frustration may turn into opportunity. Having chosen Advanced Systems Concepts, a Hoboken, N.J.-based software company, for its VAX transaction processing monitor, the bank went on to develop its own electronic funds transfer package called Smart Transfer. The pair are now teaming up, according to O'Hara, to sell the fruits of their labor to other VAX sites. "We think there's a market," he says.

Other large banks—notably Chase Manhattan, which is working with Boston-based software firm Intrinet—have followed a similar course, industry experts explain.

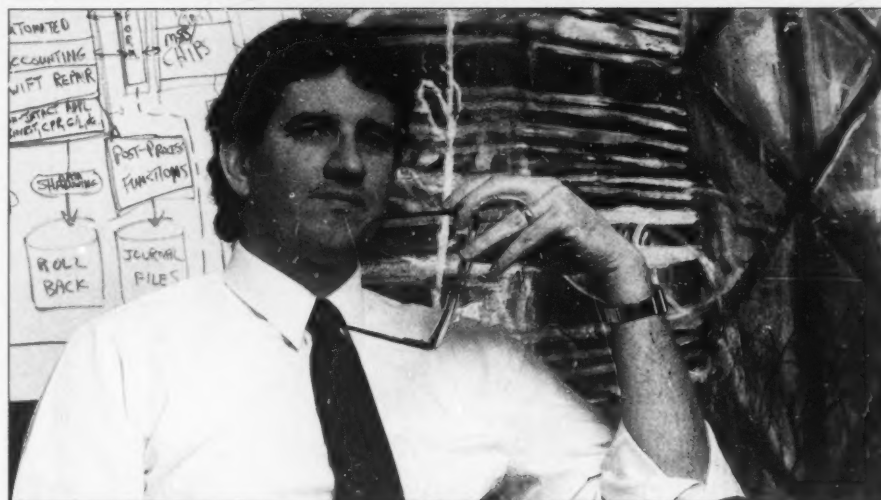
It's clear from survey data that despite DEC's claim to have been in the OLTP market for years (see "On the Beach for an OLTP Entry," April 1, 1987, p. 19), the company has not yet progressed beyond low-volume branch and office applications.

DEC Trails IBM Badly—For Now

Irrespective of its size and influence, the company has, in essence, been a niche player in the booming market for mini-based OLTP systems. Last summer's DATAMATION/Cowen & Co. survey of almost 7,000 minicomputer sites across the country, half of which were DEC sites, revealed that DEC had secured only 6.6% of respondents' OLTP systems. IBM was a clear leader with 48.5% of the total OLTP systems.

The same survey also revealed, in a startling manner, the degree of pent-up demand that exists for DEC's upcoming products. During the period of July '87 to December '88, DEC is expected to capture almost 25% of the respondents' sites implementing OLTP systems. IBM, on the other hand, will suffer a decline to 33.9% of the total (see "Midrange Shootout: Mini/

News in Perspective



SECURITY PACIFIC'S O'HARA: He hasn't gotten the performance he needs from DEC's OLTP software.

Micro Survey," Nov. 15, 1987, p. 60; and "The Improving DEC Share of the OLTP Market").

"There's no doubt that anticipation has reached fever pitch," says Irv Shapiro, consultant to many VAX sites, and founder of Irv Shapiro and Associates, Chicago. "But it could easily turn to anticlimax and disappointment if DEC doesn't deliver the right kind of OLTP solutions."

To do this, DEC will have to change its mind-set, Shapiro believes. "VMS was de-

signed for timesharing and cpu-intensive workloads, not for OLTP," he explains. "OLTP is an I/O-intensive discipline and requires a totally different approach."

OLTP on Timesharing Base

One MIS manager at a manufacturing company in the Midwest characterizes DEC's approach to OLTP this way: "They treat it as a timesharing problem by adding layers of software to VMS for each niche in the marketplace."

DEC's OLTP Products

A three- to five-year rollout of DEC's on-line transaction processing products is expected, beginning with a high-end transaction processing monitor that will support the IBM PC, and a new forms management system, VAX Forms, which will meld now separate forms and terminal management software into one package. DEC is also expected to introduce a new distributed version (version 3) of its Application Control and Management System (ACMS).

These products are all expected to be shipped by the end of the year. The early announcements, according to beta sites testing the products, are keyed to version 5.0 of the VAX operating system, VMS, and the latest release (version 3) of DEC's relational database, RDB, both of which, these sites claim, are due for imminent release.

VMS 5.0 will support symmetrical multiprocessing, the foundation for a Tandem-style nonstop VAX cluster; but sources predict that fault tolerant versions of these systems won't see daylight until the advent of VMS 6.0 in 1990.

The result, he notes, can be a confusing array of software chunks that are curiously at odds with the integrated VAX approach that first drew customers to DEC.

Ben Rosenberg, a former DEC executive and customer (as a vp at Republic National Bank in New York), says that seeing this flaw in DEC's approach to OLTP—namely, building a transaction processing system on a timesharing base—was the inspiration for his creation in 1981 of the company Advanced Systems Concepts.

"I saw a void I could fill," Rosenberg says of his product, called Intact (for Integrated Applications Control System). What he saw was the need for an operating system that could work with VMS to support I/O-intensive workloads and high-transaction volumes: "DEC had no equivalent for IBM's CICS TP monitor, an OS that can handle thousands of synchronous terminals—and, more recently, PCs," he says.

George Weiss, an OLTP expert at the Gartner Group research house, Stamford, Conn., feels that "CICS and mainframes have been the mainstay of IBM's dominance

of the OLTP marketplace. Until DEC has at least an equivalent, its posturing of VAXs as mainframe-class machines will have a hollow ring to IBM's customers."

Can DEC Remain an Island?

Weiss reckons that DEC eventually will be a major force in OLTP and a big factor in the decline of IBM's share of the total market, including mainframes, from its current level of 60%. "But they have major problems to solve before then," Weiss says, referring to DEC's traditional opposition to products "not invented here."

"Digital's insistence on building everything for itself—a product of its impressive engineering background—has hurt the company in the OLTP marketplace," says Weiss. "Here, the trend is toward alliances."

Though customers have only raves for DEC's cpus and networking, many are quick to zero in on what they perceive as relatively poor disk technology and terminals. One vp of MIS at a major New York bank says that the seek time of the company's R81 disk (about 25msec) is "barely half IBM's speed," and wonders why the mini maker doesn't enter into joint development programs with the likes of Control Data Corp. or Fujitsu. "Better still, they should raid one of IBM's disk research centers for top-notch people," he suggests, only half in jest.

Pcs Preferred for OLTP

Additional IS directors, equally anonymous but with nothing other than good things to say about DEC, nevertheless wonder why it is that a \$10 billion company doesn't yet offer effective synchronous communications or why it didn't include a block mode capability in its terminal line until the VT-320 was announced a year ago.

Photograph by Bill Kelly

Tandem Computers Inc., which is generally regarded as being at the leading edge in OLTP technology, would advise DEC to enter into alliances because of what it refers to as one of the mini maker's few blind spots: pcs. "The market is changing fast," says Dennis L. McEvoy, vice president of Tandem's Transactions Net-

IBM IS PREDICTED TO LOSE MARKET SHARE.

works Div., Cupertino, Calif. "Pcs and workstations are taking over from minis as the preferred vehicle for new OLTP applications."

The company is backing its beliefs with action. Last month, Tandem announced that it will acquire Ungermann-Bass, the Santa Clara-based LAN specialist, and will jointly develop new Unix-based RISC workstations with MIPS Computer Systems Inc., Sunnyvale, Calif. "We've carved out a \$1 billion business with our mini-based systems," says McEvoy, "but to stay on top we also have to provide the best distributed and relational database support for transactions that originate on somebody's desk. If we don't, someone else will."

IBM executives had not responded to queries about the DATAMATION/Cowen findings, or to DEC's projected growth at its expense, as of press time. But McEvoy had something to say about the mini giant: "They're a great company, and they'll undoubtedly make a splash in the OLTP business." He adds

that there are many more milestones to pass before that becomes a reality, but that there is little doubt DEC will eventually come up with a stronger mini-based OLTP solution. "The problem," he says, "is that it could be a mite passé by the time it arrives."

For now, DEC is holding its fire and its words, letting others have their say. "We've learned a lot," says DEC's Baust, "and I think that will be apparent from our announcements."

Sources at the beta sites feel that DEC has made great strides to a new mind-set and a new OLTP philosophy. Says one beta site manager about the VAX Forms product, "Here, the company has integrated two formerly separate software chunks: its TDMS [terminal data management system] and FMS [forms management system]. We're beginning to get away from fragments and niches." (see "DEC's OLTP Products")

The claim among other sources is that DEC will throw its marketing weight behind Rosenberg's In-tact product as a part of its "sweeping" announcement, and as an example—albeit on a small scale—of a new alliance. "It [In-tact] will look like a DEC product by the time it is announced," says a source who is familiar with it. Neither Rosenberg nor DEC would comment on this claim.

According to McEvoy of Tandem, DEC will

need to offer something more than "warmed over" products to meet the high expectations of its customers. "I'm willing to bet that your next survey will show that DEC didn't even secure half of the 25% share of market the survey predicts."

DEC's Customers Remain Loyal

If so, as Gartner Group's Weiss points out, "There will be much unused money floating around." He doubts much of it will go to Tandem or IBM. "DEC's customers have always been reluctant to pollute their well-ordered VAX worlds with foreign products. This is DEC's great strength: the loyalty of its customers."

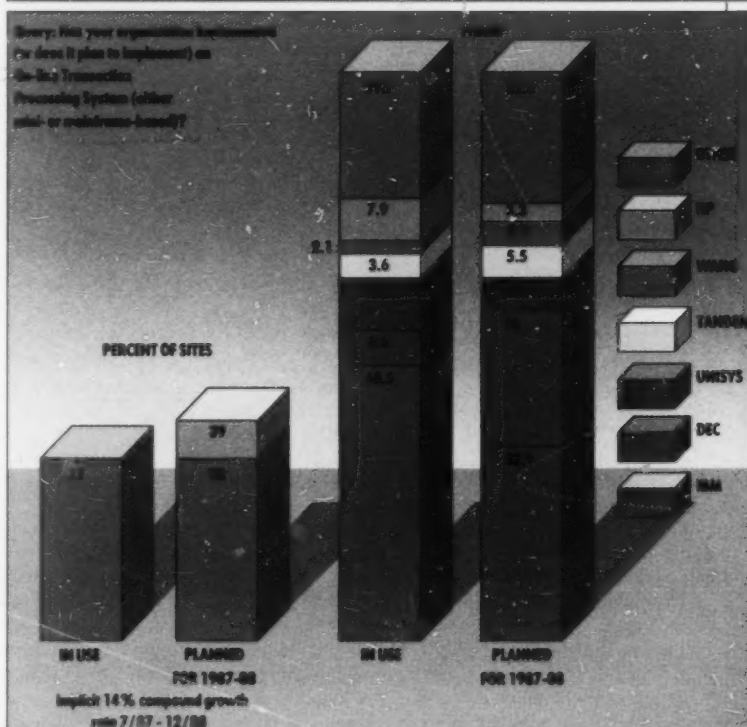
Shapiro, the Chicago-based consultant, agrees: "Despite its customers' long wait, DEC still probably has the luxury of time." He notes that even those customers that have defected to third-

party software for OLTP could eventually come back to the fold, "for they remain committed to DEC hardware."

With so much riding on its announcement, perhaps DEC's biggest concern, given the huge anticipation, is how it presents itself. How will it introduce itself as a major OLTP player? How grandiose should the announcement be? It can't claim that it has undergone a revolution in its thinking—that is, developed a new mind-set—without conceding it was a slouch in the past. On the other hand, if DEC doesn't do this, it will send a signal to many observers that it's merely offering more—albeit a lot more—of the same. It may be only a matter of months until we find out what course DEC has chosen. ■

Boston bureau manager Gary McWilliams assisted in the preparation of this story.

The Improving DEC Share of the OLTP Market



Behind the News

PERSONNEL



Wall St. Crash Survivors: Who Had the Right Stuff?

Devastated by the stock market crash, brokers are redeploying IS pros, with a focus on immediate benefits rather than cutbacks.

A DATAMATION SPECIAL REPORT

"The opportunities were coming at me like heat-seeking missiles," gushes Bernard Weinstein, formerly first vice president and chief information officer at E.F. Hutton & Co. and, on a recent afternoon earlier this year, a job hunter between interviews. In the month since the acquisition of Hutton by rival brokerage firm Shearson Lehman Brothers, he has been inundated with meetings by prospective employers. Weinstein says the recruiting rush has been more exhausting than the whirlwind from the market crash and subsequent sale of the firm. While sitting in a trendy trattoria and twirling pasta, he mulled over the career prospects swirling in his mind.

Should he accept the big-bucks offer from the old-line investment bank or take

the more conservative strategy of grabbing a new post at another retail-oriented brokerage firm? What about the juicy job at the commercial bank poised to make a big splash in the brokerage industry? In the back of his mind is the wild card—the deal from the venture capitalists to back him as the chief executive of a technology spin-off from the Hutton wreckage. The prospects made him so enthusiastic and upbeat that he offered to pay for the expensive lunch.

At press time, Weinstein had not decided which job to take, joining thousands of programmers, analysts, project managers, and technology executives who have become victims or victors in Wall Street's latest round of restructuring. Forget the gory headlines about massive layoffs on Wall Street and the macabre jokes ("Question: What do you

call a stockbroker? Answer: Waiter"). Predictions that between 25,000 and 50,000 brokers, traders, investment bankers, and clerks will soon be former masters of Manhattan suggest an industry in the throes of collapse, but the actual employment situation is far less calamitous.

Even if 50,000 brokerage employees are cut loose this year, that's only 11% of the industry's total work force, a mere blip on a trader's Quotron screen compared with prior bear markets. Between 1969 and 1975, more than 60,000 jobs were lost at the nation's brokerage firms, and hundreds of firms disappeared. The Vietnam-era crash left about 27% of the industry's work force jobless, and a fair number became taxi drivers because there were few alternatives.

Today's recipients of a Wall Street pink slip have many more options. Tremendous growth in the demand for financial services—as the baby boom generation reaches its prime earnings period and personal and corporate retirement funds rise rapidly—created demand for technology-dependent products and services, such as cash management and individual retirement accounts. Furthermore, commercial banks are rapidly expanding their securities-related opera-

Behind the News

tions. Most important of all, the financial services industry has grown so dependent on technology that it is more reluctant to jettison key technical support staff. Notes Weinstein, "In times like this, the emphasis is on cost reduction and technology provides leverage to reduce costs."

Huge Increases in Processing Power

Understanding the dimensions of the brokerage industry's five-year technology binge is crucial to appreciating the position of senior executives. The typical brokerage firm more than quintupled its processing capacity and at least doubled its systems payroll. Even before the crash, several firms began to review their technology commitments after realizing that their spending rates had exceeded their revenue growth, thus squeezing their profit margins.

"Firms were asking, 'Our systems budgets have tripled in six years, and are we better off for it?'" reports William Hewitt, executive vp of First Manhattan Consulting Group, a leading consultancy for banks and brokerage houses. "After five years of bull market growth, things had gotten out of control." Philosophical discussions gave way to panic in mid-October, and retrenchment on Wall Street began in earnest.

The traditional script for a major market turn resembles a three-act tragedy-comedy. In Act One, the firms scrambled to upgrade their systems after the volume surge that marks the end of a bull or bear market. After cleaning up the backlog of trades, the firms began Act Two: stanching the flow of red ink caused by the first phase in a climax of layoffs. After firing anyone who hadn't made his or her quota and otherwise taking a meat ax to the payroll, the denouement is Act Three: a measured reappraisal of the excess hiring and overambitious projects begun before the crash.

The popular press duly noted with astonishment that the 600 million shares traded on Oct. 19 was about double the previous volume record, but is pros know that the number of transactions is a better indicator of any volume surge, and Black Monday was nothing compared to Terrible Tuesday. On Black Monday, the exchanges loaded 600,000 transactions on a system never tested beyond the 250,000 level. This was a mere prelude to Terrible Tuesday: 1.4 million transactions or 10 times the pre-Crash level.

Emergency deliveries of cpus and

disk drives were a familiar sight on Wall Street that third week of October. Not only were the stock exchanges caught short—the 600-million share, 600,000-transaction level was not expected until late 1989—but many firms were scrambling as well. Shearson needed extra disk drives and processing power to augment its three straining IBM 3090 Model 600s. The most desperate scramble occurred in the Mount Laurel, N.J. and Jersey City data centers of Automatic Data Processing.

For One, the End Comes With a Bang

Psychologists, good friends, and mothers-in-law all agree that leaving a long-held and beloved job is like experiencing a death in the family. At first, there's the shock of loss, the empty feeling of yearning to return to the corner office: the one with the tall windows overlooking the Statue of Liberty and the dock for the Staten Island ferry. The mourning gives way to a wave of bitterness, anger at those who betrayed your trust, who forced an end to the relationship. For Bernard Weinstein, 18 years at E.F. Hutton ends this spring not with a whimper but a bang.

As first vice president at Hutton, for the past five years he had concentrated on a new generation of workstation systems for its 6,500 stockbrokers and a group of global communications systems for the firm. Weinstein was the key proponent of a \$40 million office automation system built around Data General minis, a \$20 million system of broker workstations based on NCR's IBM AT clone, and a host of data communications projects, including a network of 400 small-aperture earthstations. He is now a consultant for Hutton's new owners, American Express's Shearson Lehman Brothers.

Weinstein's explanation of why he decided not to remain with Shearson boils down to that overused expression "philosophical differences," but in this case they were real. Hutton's downfall has been widely attributed to a lack of strong leadership, below-par financial performance, and internal warfare. Weinstein and his former boss at Hutton, Norman Epstein, were entrepreneurs in a freewheeling, entrepreneurial environment, but Shearson is a tightly controlled machine. Shearson's architecture is highly centralized and true blue, while Epstein and Weinstein seemed to make a career out of hybrid systems. Shearson is "risk adverse while we were opportunity-seeking," explains the 43-year-old Weinstein. "We thought in terms of the best solution to the problem. I was paid to select the best thing and integrate it into the overall systems architecture."

Like most people from Wall Street, he appeared to be well paid: a home in exclusive Westchester county and an apartment in a fashionable Manhattan neighborhood; a frequent and recognized customer of chic restaurants. Along with about 100 of Hutton's top executives, Weinstein is part of a class action suit that seeks millions of dollars in golden parachutes that were denied them. Worry not that his two daughters will go hungry—Weinstein reports that four companies "are hot after me." The investment bank opportunity sounds like it would be the biggest challenge, since it has no need for his specialty, broker workstations. The commercial bank he's talking with is just getting into the securities business, so he would be in the ideal situation, beginning with a blank slate. The job with another retail-oriented brokerage firm offered no surprises, just more of the same. And the tempting offer from the venture capitalists—to buy a former Hutton system and offer it as a commercial product—sounded the most exciting but also the riskiest.

While debating the pros and cons of each situation at home one evening, his older daughter asked, "Daddy, will you be the boss of the computers there, too?" As he repeats his daughter's question to a reporter a few weeks later, his answer is a broad smile, as if to say, "There's nothing else I'd rather do."

At press time, Weinstein had not yet made up his mind but was leaning toward the project with the venture capitalist.

ADP does the transaction processing for more than 200 Wall Street firms, including Prudential-Bache Securities and many medium-sized companies, such as Janney Montgomery Scott in Philadelphia and Alex Brown & Sons Inc. in Baltimore. ADP president William Turner had to petition IBM, Digital Equipment Corp., and Amdahl for extra processors and peripherals to handle a situation it was woefully unprepared for. ADP's capacity was doubled in a few weeks, at a cost of more than \$50 million. Expansion of its exist-

Behind the News

Where the Technology Dollar Is Going

Ranking of the most important technology investment, by type of activity and by size of firm, in percent:

Activity	Total	Large firm	Small firm
Trading	25	33	23
Back-office	17	18	16
Retail	12	5	17
Communications	5	5	3

Percentage of firms developing or using expert systems by area of interest and by size of firm:

Area	Total	Large firms	Small firms
Trading	56	78	38
Operations	29	38	28
Retail	17	17	21

Source: Digital Equipment Corp.

ing data centers and another \$50 million infusion of hardware is expected later this year, and the firm is aggressively recruiting new systems operators to help bring the new gear on-line.

After the dust had settled within a month of the crash, Act Two began. The crash brought down Hutton, which already had been severely wounded by two years of scandal and internal dissension. Other firms, such as Kidder, Peabody & Co. and L.F. Rothschild, began to scale back operations dramatically.

Some See Severe Layoff Consequences

Kidder fired 1,000 from its total payroll, while Rothschild laid off 700, or 40% of its total staff. Shearson's acquisition of Hutton will put more than 6,000 employees out of work as "redundant" after the systems conversions are completed in June; most of the surplus employees were part of Hutton's transaction processing departments. "The industry will spend the next five years tearing down what it spent the past five years building," notes William Saubert, a principal consultant in the capital markets practice of Coopers & Lybrand, New York. Drastic layoffs are cutting into the muscle of some of these firms, putting "high-caliber" people in the job market, he says. "We are now seeing hundreds of résumés per week from investment banking firms. We used to see 20." (see "Superbowl Tuesday: An Is Job Fair on Wall Street")

Most of the staffing realignments occurring throughout Manhattan's downtown financial district involve reshuffling. Larger firms such as Merrill Lynch, Goldman Sachs, and Drexel Burnham Lambert initiated less drastic campaigns to cut costs. Merrill Lynch is

pruning 10% from its overall compensation costs, and its technology operations are not being spared. Out of 15,000 employees reporting to DuWayne Peterson, executive vp of Merrill Lynch, more than 100 had been discharged by early in the year, with more departures to follow.

Many programmers and analysts have been shifted from long-term projects that may have increased revenues to short-term efforts to boost productivity and cut costs. Peterson and several of his colleagues hope to avoid a repetition of mistakes made during past market setbacks—an indiscriminate slashing of programmers and support staff and the cancellation of important projects.

The more sophisticated thinking in Wall Street technology circles these days is intent on refocusing on the immediate benefits of the application of technology rather than on mindless cutbacks. After spending billions of dollars, pounds, and yen on technology since the beginning of the bull market, it is now payback time. "It's true that the number of back-office people swelled to handle the paper, and we built up an infrastructure," notes Peterson. "Now, we have to see how we can make use of the automation layer, leverage off of it more than we did and get a better handle on costs."

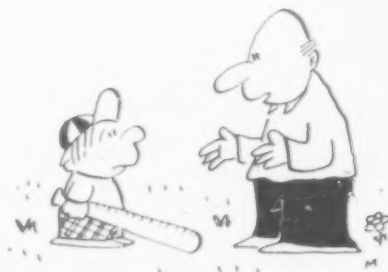
Consultants

and IS managers, for example, favor the tactic of switching the priorities of the software enhancement staff. Since technology spending at a brokerage firm represents 6% to 8% of total expenses, and only half of that is staff expense, trimming the programming staff to cut costs results in minimal savings and lost opportunities, notes First Manhattan's Hewitt. Those positions that appear most expendable—e.g., the programming staff for major long-term projects—should be allowed to continue their work. The staff working on everyday enhancements should be reassigned to review existing procedures that add to the firm's cost burden.

Fine-tuning the processing capacity of existing systems without impairing important long-term projects is the mandate of the 60-person systems staff of the regional brokerage firm A.G. Edwards & Sons, St. Louis. According to Allan Kalb, senior vice president, "As a result of Oct. 19, we had a series of meetings and decided to continue certain projects, such as the disaster recovery plan. We changed the focus of 20% of the systems and programming efforts, to put more of a focus on trade processing [away from new systems development]. About a dozen people were shifted to make sure that our systems were geared to the problems."

Competition From Commercial Banks

A key reason why the smart firms are fine-tuning their operations in the wake of the crash, rather than performing wholesale duaping, is their concern over the new competition coming from commercial banks. Indeed, a recent sur-



Behind the News

vey done for DEC found that two thirds of the brokers polled plan to increase their technology spending this year, while 10% forecast a decrease. The average large brokerage firm planning a boost expects spending to rise 20%. While this may appear to be startling considering last October's events, keep in mind that leading investment banks and brokers had been expanding their technology departments by up to 40% per year, according to surveys by Nolan, Norton & Co., a management consulting firm.

Many commercial banks have been moving into the brokerage industry through a variety of maneuvers around the Depression-era laws that separated commercial and investment banking. Bankers Trust Co., J.P. Morgan, Chase Manhattan, and a variety of other major firms are in a feeding frenzy during this retrenchment, picking up experts in the design and operation of systems to manage the underwriting and trading of mortgage-backed securities, commercial paper, and municipal bonds.

Some securities industry officials see the coming of the commercial banks as a more important event than the crash itself. "The issue for the industry is not Oct. 19," insists an official from Salomon Brothers. "The issue is the fundamental restructuring of the industry. The products we sell and the firms who sell to them are going through an enormous upheaval. Highly capitalized firms with extensive experience have a long history of investing in technology. They are spending astounding sums for technology. One view among investment bankers is that the competitors are so strong that you either have to get out of the business or continue making major investments to stay competitive."

In other words, all those brokerage industry officials who thought they were lucky to land a job with a commercial bank may be facing another upheaval in a few years. Worst of all, they're not receiving the legendary compensation of the past.

Million-dollar deals for top technology officials were an accepted fact during the bull market. Merrill Lynch's Peterson and a select few of his colleagues were rumored to be members of this version of the mile-high club; Peterson declined to comment. As for managers who used to see bonuses amounting to 50% of their \$150,000 salaries, all of that has come to an end, with few exceptions.

"Compensation numbers are down

dramatically," notes Coopers & Lybrand's Saubert. Adds Ladd Willis, a partner in management consulting services, and Saubert's colleague from the commercial bank consulting department, "The upward pressure from the investment banking side, on the commercial banks, is gone. There is much more control over raises."

The Wall Street technology orgy may be over, but at least most revelers have a place to go tomorrow morning. Notes a former Hutton official, "Shearson took the attitude that anyone offered a job there should be grateful to have a place to work, and that angered a lot of us. We have all found jobs elsewhere, in more hospitable environments." ■

Superbowl Tuesday: An IS Job Fair on Wall Street

While many Wall Street financial institutions are laying off employees, there is a group that remains hungry for IS talent. Chase Manhattan Bank, American Express Travel Related Services, and others are hoping to recruit more than 300 information systems professionals this quarter. To fill these spots, the financial institutions got together and put on a job fair last month at New York's World Financial Center.

Advertised as Superbowl Tuesday, the recruiting effort was the first IS job fair sponsored specifically by financial services organizations. About 1,000 résumé-clutching IS pros showed up for the one-day event, which was organized in only three weeks.

Timing was everything when it came to staging Superbowl Tuesday. Jack Shein, manager of staffing and consulting services for the Equitable Life Assurance Society of the United States, says it was the postcrash nervousness of IS staffers that prompted him to huddle with colleagues at other financial institutions. The resulting game plan was to hold a special recruiting event as soon as possible.

"We wanted to take advantage of the fact that a lot of people are feeling insecure right now," he explains. "If you look at the faces [of the job applicants], you can see they're concerned. We want to send a message to them that there are financial companies in good, stable positions, and that we've got recruitment needs we'd like to fill."

The crash didn't create Equitable's staffing needs, Shein maintains. Between August and November of last year, Equitable underwent a corporatwide "downsizing," which Shein thinks has contributed to an increased emphasis on data processing at the insurance company. "Any time you go through a downsizing, automation becomes more important because it can help you eliminate clerical work. We're turning to MIS to take up the slack."

The crash, however, is responsible for creating the increased supply of IS professionals in New York's financial district, Shein acknowledges. He describes the atmosphere at Superbowl Tuesday as "a buyer's market."

The phenomenon appears to be confined to New York, however. Ernest Lendman, whose company, the Lendman Group, handled the logistics on Superbowl Tuesday, expressed pleasant surprise at the event's attendance. "We usually get 1,000 people in two days. Here, we're seeing that many in one day." The persistence of the applicants also surprised Lendman, who comments, "They're willing to wait on line here." In other parts of the country, dp pros are choosier, walking away from long lines and smaller companies at job fairs.

During the first six weeks of this year, the Lendman Group sponsored "technical career invitations" in Baltimore, Chicago, Secaucus, N.J., and Washington, D.C. In those cities, Lendman reports, the number of positions available exceeds the number of qualified applicants. "I think job opportunities have picked up in this field since Jan. 1," he says.

It was at job fairs sponsored by Lendman's Virginia Beach, Va.-based recruiting company that Equitable's Shein met his counterparts at the other financial institutions. Although composed of competitors for the same job candidates, Shein says it's a fairly friendly group. In addition to Equitable, Chase, and American Express, the other New York teams Shein invited to compete on Superbowl Tuesday were the Federal Reserve Bank of N.Y., Dean Witter Reynolds, the Depository Trust Co., DIJ/Pershing, and Guy Carpenter & Co. Inc.

BY MARY KATHLEEN FLYNN

IS Spending Booms in Japan

BY KIT GRINDLEY

This year, more companies in Japan will increase their hardware and software budgets than will their competitors in other industrialized countries around the world. That's one of the findings of the first International IS Trend Survey conducted by DATAMATION in conjunction with international management consultants Price Waterhouse.

Information systems managers in 1,700 companies in the U.S., Japan, Great Britain, France, and Australia were contacted in the survey and asked to give their predictions of IS trends for the next 12 months on topics ranging from budgets to staffing to user issues.

Japan stands out as particularly unusual among the five countries. In general, the expected budget increases across the globe—for both hardware and software—suggest that the two-year slowdown in the IS market has run its course. The speed of this recovery varies greatly between countries, but Japan, where the recession was least felt, appears ready to be the big spender. A net 77% of the 360 Japanese respondents say they will increase the size of their installations in 1988. This seems to confirm that Japan is set to be the world's leading user of IS.

There may be another explanation, however. Japan's traditional automation philosophy has tended to be concentrated on so-called "hard" applications, whereby systems are used for manufacturing, distribution, accounting, etc. In many corporations the office environment has remained comparatively unautomated and traditional work processes and personnel still exist. Things are changing, however, and the traditional ranks of office assistants are being given high-tech tools to help them do their jobs. This is what many Japanese corporations will be addressing during 1988, and it is likely to account for a significant proportion of the increased budgets.

In Europe, France is beefing up IS usage and is a solid second in the growth rankings. The U.S. shows over half of its installations are planning growth, while in the U.K. and Australia, growth appears to be more modest.

Japan and France appear to be the world's fastest growing software markets, with much of the growth coming

from the use of applications packages.

Staffing is still a major concern throughout the world's IS community. The U.S., Europe, and Australia suffer from a shortage of software development personnel, but Japan's policies of internal recruitment and promotion from within the corporation seem to have provided a ready supply of IS recruits. The other countries show remarkably consistent and restrained recruitment intentions, with just under a third of installations planning to recruit.

MARCH 15, 1988

- **The U.S., Europe, and Australia still suffer from a shortage of software development personnel.**
- **Almost a quarter of Australian corporations in the survey expect to give pay raises of over 10%.**
- **Japan is determined to be the world's leading user of IS.**
- **The world trend toward end-user power is expected to increase in 1988.**

Japan could well achieve its 47% target growth rate, but at what cost? Internal recruitment and promotion in the past has given rise to three severe worries for Japanese IS executives that are not shared to the same degree by their counterparts in other countries (see "Top Three User Issues...").

While other countries rank meeting project deadlines as the most serious problem they face, Japanese respondents put it at number four on their list. Japan's preoccupation with maintaining existing systems seems to give local IS organizations some immunity from the deadline disease. Future surveys will help reveal whether this is the result of better planning, greater productivity, or the seriousness of other concerns.

Japan's main concerns are different. As new recruits flow in to IS in Japanese corporations, experienced IS people flow out to other departments in the company. As well as creating a critical program maintenance problem, this trend creates internal technology transfer, fueling Japanese end-user departments with IS

skills that enable them to bypass the dp department, exacerbating the go-it-alone user problem. At the same time, skilled and experienced staff who want to stay in IS are driven out of user companies and into the waiting arms of consulting organizations. It comes as no surprise that Japan expects to make far and away the largest use of subcontractors in 1988.

Despite the world shortage of programmers and analysts, the days when raises for IS staff outstripped those in other professions appear to be over. Only in Australia is there any sign that IS personnel will be cashing in big this year. Almost a quarter of Australian corporations in the survey expect to give pay hikes of over 10%. At the other end of the scale is France: raises of under 5% are going to be the uninspiring norm. Perhaps reflecting the increasing maturity of the industry, the bulk of the world's IS professionals will take home between 5% and 10% more this year.

The world trend toward end-user power is expected to increase in 1988 as the proportion of centralized information technology systems continues to decline. One of the most important findings of the survey points out difficulties that lie ahead for those moving too quickly down this route. France, Japan, and the U.S.—the three countries with the most ambitious decentralization plans—report major problems in integrating their communications with data processing.

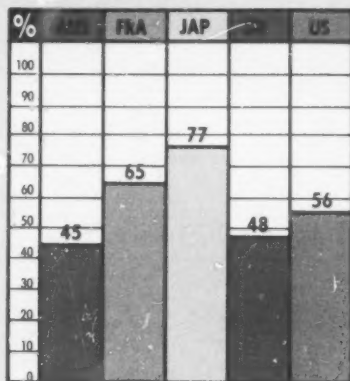
The U.K., meanwhile, is the only country to rate staff recruitment and retention among its top three IS management issues. Either IS executives in the rest of the world have solved their staffing problems, or the problems have become so intractable that managers have given up worrying about them.

NOTE: Except where stated, all figures show the net increase percentage; in other words, those saying "decrease" have been subtracted from those saying "increase."

Kit Grindley is a management consultant for Price Waterhouse. He is the founder of the company's quarterly survey of IS trends. He is also a professor of systems automation at the London School of Economics, the author of several books, including Systematics: a 4GL approach to systems implementation, and the co-author of The Effective Computer.

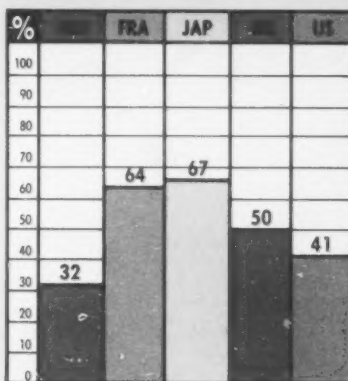
Trends for This Year

HARDWARE SPENDING



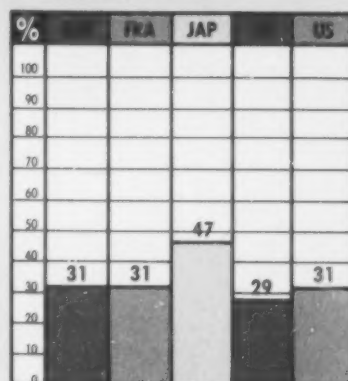
Hardware spending in Australia will be up in fewer IS shops than in the other countries surveyed. But clear majorities of installations in Japan and France report they'll be spending more on hardware in the next 12 months.

SOFTWARE SPENDING



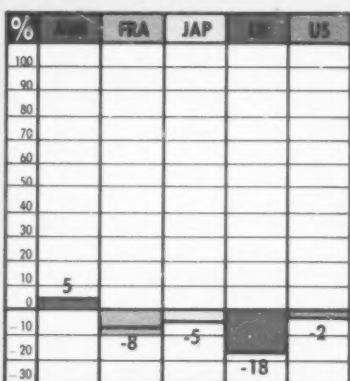
Australia's software spending is also increasing at a slower rate than is typical in the other countries surveyed. The U.K. is the only market in which software spending is up more than hardware spending.

DEVELOPMENT STAFF



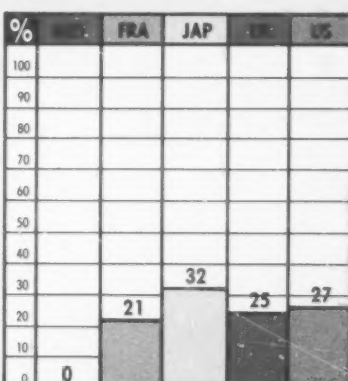
Japan's large planned increase in development staffs put it far ahead of the other surveyed countries, all of which are bunched at about the same level.

OPERATIONS STAFF



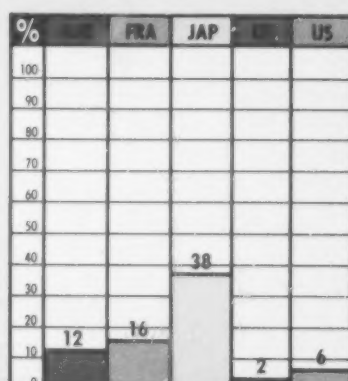
The average operations staff will grow in only one of the surveyed countries, Australia.

TELECOM STAFF



Except in Australia, almost everyone is looking for more telecom professionals. Even Down Under, the field isn't shrinking.

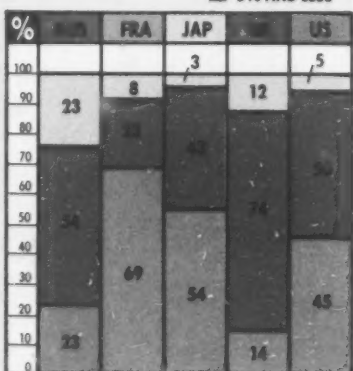
CONTRACT STAFF



Japanese IS pros are being tempted out of in-house IS shops and into consultancies, which means that more companies there are forced to look outside for expertise.

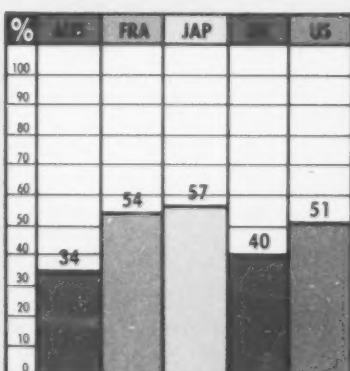
SALARY MOVES

10% AND OVER
5% - 10%
5% AND LESS



Australian IS is expecting the highest average raises.

DECENTRALIZATION TREND



End-user power is growing fastest in Japan, France, and the U.S. In Australia and the U.K., the trend is slower, though still significant.

Top 3 User Issues Around the World

(actual mentions, by country, as a percentage)

	AUS	FRA	JAP	UK	US
Meeting Deadlines	23	48	—	49	52
Evaluating Proposals	21	—	—	—	—
Predicting Info Technology	20	53	—	—	47
Integrating Communications/Dp	—	38	49	—	47
Program Maintenance	—	—	60	—	—
Go-alone Users	—	—	45	—	—
Staff Retention	—	—	—	14	—
Recruitment	—	—	—	25	—

IS pros in Japan have managed to push the deadline bogeyman down to fourth place on their list of worries.